

41316 to 41341—Continued. (Quoted notes by Mr. O. F. Cook.)

41322. *MANIHOT DULCIS* (Gesner) Baillon. Euphorbiaceae.(*Manihot palmata* Muell. Arg.)

Sweet cassava.

“(No. 1768. Dried fruits from San Miguel, Peru, July 10, 1915.)”

For description, see No. 1680 (S. P. I. No. 41320).

41323. *CAESALPINIA PECTINATA* Cav. Caesalpinaceae.

Tara.

(*Caesalpinia tinctoria* Domb.)

“(No. 1795. Seeds from Peru.) A tall, upright, spiny shrub or small tree, often planted for hedges, especially in the district around the town of Urubamba, but very abundant in the wild state farther down the Urubamba Valley, between Ollantaytambo and Torontoy, at altitudes of 8,000 to 10,000 feet. Here it grows under much the same conditions as the *molle* or pepper tree, though going into somewhat lower and drier situations. Yet the *tara* does not extend into the parts of the valley that are occupied by tropical types of vegetation, as at San Miguel, nor were any seen in the region of Santa Ana. The habit of growth and general appearance of the *tara* are striking, the trunk or trunks being strictly upright, with a few spreading branches near the top. The largest trees attain a height of 25 to 30 feet, with trunks 6 to 8 inches in diameter. The foliage is deep green in color, with the leaflets smooth and polished on the upper surface. The greenish yellow flowers in cylindrical open spikes are not very conspicuous, but the pods are produced in large clusters, and the exposed surfaces show a bright scarlet for a long time before maturing. The color affords a very attractive contrast to the leaves, and from a distance the effect is the same as though the trees were producing clusters of red flowers. In addition to the possibility of using the *tara* as an ornamental, it might have value as a hedge plant or windbreak, especially in the drier, warmer parts of the Southwestern States. The tendency of many hedge plants to spread out laterally and occupy too much ground is not shared by the *tara*, for all the shoots grow nearly upright, making a very close and effective hedge, the bark being studded with short spines. The spines may afford an objection to the use of the *tara* as an ornamental in some situations, but they will add to its value as a hedge plant. A well-grown hedge of *tara* keeps out cattle, pigs, or goats, as well as human intruders. The growth of the young plants is said to be very rapid, the wood being rather soft and not durable. New shoots are formed readily after cutting back, but there are no sprouts from the roots. No information could be secured regarding the feasibility of propagating from cuttings. The hedges about Urubamba are said to be grown from seedlings.

“A further consideration is that the pods of the *tara* might be found to have economic value for tanning or dyeing, like the *divi-divi* and other species of *Caesalpinia*. In former years it was customary in Peru to make ink of the pods by grinding them and adding a little sugar and verba buena to give luster. The same preparation was used for dyeing black. The ink was said to be of good quality and continued in use in the district of Ollantaytambo until recent years, when supplies of imported ink were available. In the market in Lima *tara* pods are a regular article of trade and are said to be used for dyeing, tanning leather, and making ink.

“The immature seeds of the *tara* contain, underneath the skin, a layer of fleshy opalescent material, with a rather pleasant, slightly sweetish taste, which is considered edible, like the arillus of the seeds of Inga and